

AMENDMENTS

Amendments to the Claims

This listing of claims will replace all prior versions.

1. (Currently Amended) A method for determining a maximum current flow in the electric power line conductor (1) under faulted circuit conditions, the method comprising:
 - (a) in the field environment, applying a specific frequency activation signal and code key from an exciter positioned proximate to ~~the~~ a faulted circuit monitoring apparatus located on the power line conductor;
 - (b) activating said faulted circuit monitoring apparatus by way of said specific frequency activation signal and code key;
 - ~~(b)~~ (c) at the exciter, detecting a data signal from the faulted circuit ~~monitor~~, The monitoring apparatus, the data produced by modulating a specific frequency faulted circuit monitor in response to a measured current parameter;
 - ~~(e)~~ (d) at the exciter, receiving the faulted circuit data from the data signal;
 - ~~(d)~~ (e) associating the faulted circuit current magnitude with the conductor phase information for the particular faulted circuit monitor unit; and
 - ~~(e)~~ (f) repeating steps (a), (b), (c), ~~and~~ (d) and (e) for all power line phase conductors P1, P2, ~~and P3~~ on an electric power line.
2. (Original) The method of claim 1 wherein applying a specific activation signal comprises applying an un-modulated signal having a specific frequency chosen to resonate with an rf detection circuit (20) of the faulted circuit monitor.
3. (Original) The method of claim 1 where in the fault current response time of the faulted circuit monitor is slowed to allow for “inrush” conditions on the power line.
4. (Original) The method of claim 2 wherein applying a specific frequency activation signal comprises applying a specific frequency or two distinct frequencies close to one another.
5. (Original) The method of claim 1 wherein applying a specific activation signal comprises positioning the exciter apparatus near the faulted circuit monitor to actuate the faulted circuit monitor with the specific frequency signal.

6. (Original) The method of claim 1 wherein a specific code key pattern of binary data are transmitted from the exciter by modulation of the rf signal.
7. (Original) The method of claim 1 wherein the faulted circuit monitor apparatus responds to only a match with the exciter transmitted code key.
8. (Original) The method of claim 1 wherein detecting a data signal from the faulted circuit monitor comprises:

Detecting faulted circuit current magnitude information from the faulted circuit monitor data signal.
9. (Original) The method of claim 1 wherein detecting the data signal from the faulted circuit monitor comprises:

Detecting an impedance modulation of a radiated rf field of the exciter; and decoding the data as the impedance modulation by operation of the faulted circuit monitor.
10. (Original) The method of claim 9 comprising sequentially associating detected identification information with respective power line conductor phases.
11. (Currently Amended) The method of claim 1 further comprising the step of wherein downloading the faulted circuit monitor data ~~comprises~~ and communicating the data over a hard wire link, a wireless link, or a network.
12. (Original) The method of claim 11 wherein communicating data comprises:

establishing a temporary connection between the exciter and the host pc;
conveying the data from the exciter to the host pc over the temporary connection;
and breaking the temporary connection.
13. (New) The method of Claim 1 wherein said faulted circuit monitoring apparatus is powered by said specific frequency activation signal